

**Table 1.** Patient and Lesion Characteristics and Procedure Outcomes

	TFA	TRA	P Value
<b>Patient Characteristics</b>	<b>N=117</b>	<b>N=156</b>	
Age (Mean $\pm$ SD)	66.6 $\pm$ 12.0	64.7 $\pm$ 12.2	0.20
Male Gender (%)	73.5%	73.7%	1.00
BMI (Mean $\pm$ SD)	29.7 $\pm$ 5.5	30.9 $\pm$ 6.2	0.10
Diabetes Mellitus (%)	48.7%	34.0%	0.02
Prior PCI (%)	54.7%	50.0%	0.46
Prior CABG (%)	14.5%	13.5%	0.86
Hypertension (%)	88.9%	85.3%	0.47
Hyperlipidemia (%)	90.6%	83.3%	0.11
Current Cigarette Smoker - Last year (%)	20.5%	30.8%	0.07
Cerebral Vascular Disease	9.4%	5.1%	0.23
Congestive Heart Failure (%)	11.1%	12.8%	0.71
Peripheral Vascular Disease (%)	13.7%	12.8%	0.86
<b>Lesion Characteristics</b>	<b>N=142</b>	<b>N=192</b>	
Lesion Location - n/N (%)			0.92
Left Main	1/142 (0.7%)	1/192 (0.5%)	<0.001
Left Circumflex	34/142 (23.9%)	46/192 (24.0%)	
Left Anterior Descending	64/142 (45.1%)	78/192 (40.6%)	
Right Coronary	42/142 (29.6%)	64/192 (33.3%)	
Ramus	1/142 (0.7%)	2/192 (1.0%)	
ACC/AHA Lesion Classification - n/N (%)			
A	14/137 (10.2%)	27/189 (14.3%)	<0.001
B1	47/137 (34.3%)	56/189 (29.6%)	
B2	12/137 (8.8%)	50/189 (26.5%)	
C	64/137 (46.7%)	56/189 (29.6%)	
<b>Procedure Characteristics</b>			
Number of Stents per CorPath Lesion - Mean $\pm$ SD (N)	1.1 $\pm$ 0.4 (120)	1.1 $\pm$ 0.4 (178)	1.00
Total Contrast Media Volume (mL) - Mean $\pm$ SD (N)	186.9 $\pm$ 81.0 (117)	210.1 $\pm$ 121.0 (156)	0.07
Total Fluoroscopy Time (min) - Mean $\pm$ SD (N)	15.1 $\pm$ 9.5 (116)	14.2 $\pm$ 6.7 (156)	0.36

**CONCLUSIONS** In this multi-site and multi-operator experience data, robotic PCI was more commonly done via the radial rather than the femoral access. Robotic PCI technical success was higher in the TRA group. Clinical success was high and similar by using either the femoral or radial access for robotic PCI. These observations support the concept that trans-radial robotic PCI is feasible and highly successful.

**CATEGORIES OTHER:** Vascular Access: Transradial

**KEYWORDS** Percutaneous coronary intervention, transradial, Percutaneous transfemoral approach, Robotics

### TCT-436

**Percutaneous removal using Perclose ProGlide closure devices versus surgical removal as weaning strategy after percutaneous cannulation for venoarterial Extracorporeal Membrane Oxygenation**

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**BACKGROUND** The removal of arterial cannula using a perclose device has not been reported in patients underwent venoarterial extracorporeal membrane oxygenation (ECMO). We investigated the procedural outcomes and complications of percutaneous device closure versus surgical repair for hemostatic control of the arterial access site in weaning venoarterial ECMO.

**METHODS** Between September 2012 and December 2014, a total of 115 patients with ECMO weaning by percutaneous or surgical access were enrolled. The percutaneous technique involved deployment of two ProGlide devices as a directly puncture to arterial cannula at the time of weaning off ECMO. The primary outcome was composite complications of open repair in insertion site, limb ischemia after removal of arterial cannula, infection of removal site, pseudoaneurysm, distal part embolization, and manual compression at weaning site.

**RESULTS** The patients underwent percutaneous and surgical exposure technique were 56 and 59 patients, respectively. There was no significant difference in the rate of technical success between percutaneous group and surgical group (85.7% vs. 86.4%,  $p=1.0$ ) although the procedure duration (17.15 $\pm$ 9.38 min vs. 64.33 $\pm$ 31.67 min;  $p<0.001$ ) was shorter in the percutaneous access group. Also, a composite of the procedure-related complications and length of stay in intensive care unit after weaning were not significantly different between the two groups (17.9% vs 28.8%,  $p=0.19$  and 16.82 $\pm$ 38.53 days vs 19.69 $\pm$ 21.40 days,  $p=0.62$ , respectively).

	Percutaneous (n=56)	Surgical (n=59)	P-value
In-hospital mortality			1.00
Saved	42 (75%)	44 (74.6%)	
Death	14 (25.0%)	15 (25.4%)	
Length of stay in ICU	23.82 $\pm$ 41.12	28.10 $\pm$ 25.25	0.50
Length of stay in ICU after weaning	16.82 $\pm$ 38.53	19.69 $\pm$ 21.40	0.62
Length of stay in hospital after weaning	42.51 $\pm$ 74.33	50.50 $\pm$ 89.89	0.61
Overall complications	8 (14.3%)	7 (11.9%)	0.79
Open repair in insertion site	1 (1.8%)	4 (6.8%)	0.37
Limb ischemia	2 (3.6%)	3 (5.1%)	1.00
Infection of removal site	0	2 (3.4%)	0.50
Pseudoaneurysm	1 (1.8%)	0	0.49
Distal part embolization	1 (1.8%)	0	0.49
Manual compression in weaning site	5 (8.9%)	2 (3.4%)	0.26

**CONCLUSIONS** Percutaneous access using two Perclose ProGlide device is a feasible and safe strategy for weaning ECMO.

**CATEGORIES OTHER:** Vascular Access: Femoral and Closure Devices

**KEYWORDS** Extracorporeal membrane oxygenation, Percutaneous closure

### TCT-437

**Pre-planned tailored vascular access program significantly decreases the vascular complication rate**

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**BACKGROUND** Vascular complications remain the most frequent complication and significantly affect the procedural results of TAVI.

**METHODS** From September 2010 to January 2015, 108 consecutive patients underwent TAVI in our department. Of them, femoral access was obtained in 100 patients, direct aorta in 4 patients and transapical in 4 patients. All 100 patients with femoral access were included to the final analysis. Femoral artery anatomy-tailored program was introduced in 2013 in our center in order to reduce the rate of access-site vascular complications in TAVI patients. The main goal was to find an optimal vessel morphology for safe percutaneous approach. The following angio-CT findings were considered a high risk for percutaneous approach: 1. Severe calcifications at the puncture site 2. Diffuse atherosclerotic disease with a large plaque burden 3. Inability to perform contralateral injection- controlled puncture. All patients with such characteristics were pre-planned to surgical cut-down approach. The study cohort was divided into two subgroups: group A - patients treated between September 2010 to December 2012 before introduction of the tailored vascular access program (n=35) and group B - patients treated from January 2013 till December 2014 (n=65). All patients in group A were treated with percutaneous puncture and device closure. Group B comprised of 47 patients with percutaneous access and 18 patients in whom surgical approach was chosen.

**RESULTS** A total of 100 patients (mean age 79.6 $\pm$ 6.5, range 57 to 91, 46% male) with femoral access were included to the analysis. The CoreValve prosthesis was implanted in 95 patients (95%) and Lotus in 4 patients (4%). In one case the prosthesis was not implanted because the patient died during procedure after wire positioning. In one patient with Prostar closure the device could not be successfully closed and the artery was closed in the surgical manner. Vascular access site complication rate significantly decreased from 34.3% in the group A (n=12) to 6.2% in the group B (n=4) ( $p=0.0005$ ). Both minor and major access complications were more frequent in the group A than in the group B, and the result was statistically significant ( $p=0.03$  and  $0.02$ , respectively). Both groups did not differ much in terms of baseline characteristics and risk evaluated on the basis of risk score calculators. Arterial hypertension and prior myocardial infarction were more common in the group B. In-hospital mortality was 11.4% (n=4) in the group A and 1.5% (n=1) in the group B ( $p=0.05$ ). Two deaths were related to access site complications in the group A, one in the group B.

**CONCLUSIONS** The introduction of tailored vascular access program resulted in significant reduction in both minor and access site complications. The pre-procedural access screening with qualification to closure-device or surgical cutdown technique seems to be the most important step to reduce the vascular complication rate.

**CATEGORIES ENDOVASCULAR:** Complications

**KEYWORDS** Complication, TAVI, Transfemoral